

KOVALENKO, I.

Problems in vocational education as shown in Party decisions.

Prof.-tekh. obr. 12 no.6:24-26 Je '55.

(MIRA 8:9)

(Technical education)

EDVALENKO, I.

Improve the quality of educational literature. Prof.-tekh.obr.  
12 no.11:29-30 X '55. (MIRA 9:2)

1.Direktor Vsesoyuznogo uchebno-pedagogicheskogo izdatel'stva  
"Trudrezervizdat".  
(Technical education---Textbooks)

MOVALENKO, I.

As determined by a variable conjuncture. Prof.-tekhn.ebr. 13 no.3:  
26-28 Mr '56. (Europe, Western--Technical education)(MLRA 9:7)

HOVALINHO, I.G., inshener-pedagog.

Technical training and the institution of higher learning.

Politekh. obuch. no.3:3-5 Mr '57.

(Technical education) (Education, Higher)

(MLRA 10:5)

KOVALENKO, I.

27-12-19/27

AUTHOR: Kovalenko, I., Chief Editor of the All-Union Educational-Pedagogical Publishing House "Trudrezervizdat"

TITLE: More Literature for the Training of Workmen (Bol'she literatura dlya obucheniya rabochikh)

PERIODICAL: Professional'no . Tekhnicheskoye Obrazovaniye, 1957, # 12, p 23-24 (USSR)

ABSTRACT: In 1957, the All-Union Instructional-Pedagogical Publishing House "Trudrezervizdat" has accomplished a great work in publishing instructional and methodical literature for the schools of the State's Labor Reserves System. By request of the TsK VIKSM and the book-selling organizations, the edition of a number of textbooks was increased to satisfy the needs of the youth working on virgin lands, the construction sites of Siberia and the Far East. During the past year the Publishing House has printed approximately 600 titles of textbooks with editions of about 7,500,000 copies. The article lists the titles of a number of new textbooks, reprints of old books, manuals and books on new techniques and advanced methods of labor as well as on questions relating to the training of work-

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KOVALENKO, I.

SUBJECT: FINLAND/Schooling

27-8-22/32

AUTHOR: Kovalenko, I.

TITLE: In the Schools of Finland (V Shkolakh Finlyandi)

PERIODICAL: Professional'no - Tekhnicheskoye Obrazovaniye, Aug. 1957, v. 8, p 30-31 (USSR)

ABSTRACT: In connection with the visit by N.A. Bulganin and N.S. Krushchev to Finland, where they visited a trade school in Lahti, the article describes the Finnish educational facilities. The author pays special attention to professional education which he regards as being of a good standard. The article contains 2 photos.

INSTITUTION:

PRESENTED BY:

SUBMITTED:

AVAILABLE: At the Library of Congress

Card 1/1

AUTHOR: Kovalenko, I. 27-58-5-10/18

TITLE: Some questions of Professional Pedagogics Abroad and in the USSR (Nekotoryye voprosy professional'noy pedagogiki za ru-bezhom i v SSSR)

PERIODICAL: Professional'no-Tekhnicheskoye Obrazovaniye, 1958, Nr 5, pp 20-23 (USSR)

ABSTRACT: Most countries have two kinds of education, technical (for technicians and engineers) and professional. Problems of the former are studied in special institutes in Germany, France, the USA, Switzerland, UNESCO and the USSR. There exist 3 main systems, the Soviet, the American, and the German. The Soviet system aims at instilling the right habits. The USA system is described, with especial emphasis on its racial prejudice (books of Ivan Hunter (Iven Khanter) are quoted). Automation is the main element, and is likely to produce vast unemployment. The German system is next described, including the retraining in England "of a third of all workers" (the cadres absorbed by industry during the world war).

AVAILABLE: Library of Congress  
Card 1/1

1. Education Systems-USSR 2. Education Systems-USA  
3. Education Systems-Germany

AUTHOR: Kovalenko, I.

SOV/27-58-11-24/29

TITLE: The Teaching Literature to be of Better Quality (Vyshe kachestvo uchebnoy literatury)

PERIODICAL: Professional'no - tekhnicheskoye obrazovaniye, 1958, Nr 11, p 25 (USSR)

ABSTRACT: The Vsesoyuznoye uchebno-pedagogicheskoye izdatel'stvo "Trudrezervizdat" (All-Union Teaching-Pedagogical Publishing Office "Trudrezervizdat") has considerably increased the publication of teaching literature for Labor Reserve school, and for training workmen on the job. The author lists a large number of the textbooks issued for various trades. They include 3 textbooks (translated from English) on carpentry, mechanical treatment of metals and work with concrete, various manuals and books on professional education in Yugoslavia, China, Czechoslovakia, etc. Though the issue of teaching literature increases from year to year, the demand for it is still considerable. The author mentions the textbooks to be issued in 1959, and points out that much has to be done for improving the quality of the literature. The textbooks should be revised, and reduced in size. The

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The Teaching Literature So be of Better Quality

SOV/27-58-11-24/29

planned reorganization of the system of national education will demand a still greater increase in the issue of instructional literature.

1. Personnel--Training 2. Literature 3. Universities--Textbooks

Card 2/2

KOVALENKO, I.

Let's train qualified workers. Okhr.truda i sots.strakh. no.7:  
45-47 J1 '59. (MIRA 12:11)  
(Safety education, Industrial)

KOVALENKO, I.

Textbooks and teaching aids for industrial training in secondary  
schools. Politekh. (buch. no. 10:90-91 0 '59. (MIRA 13:2)  
(Technical education) (Textbooks)

OSIPOV, Aleksandr Pavlovich; KOVALENKO, Innokentiy Georgiyevich; PETROV,  
Yevgeniy Aleksandrovich; PILATOVA, I.T., red.; RAKOV, S.I.,  
tekhn.red.

[The Soviet worker and automation] Sovetskii rabochii i avto-  
matizatsiia; tekhnicheskii progress i podgotovka rabochikh kadrov.  
Moskva, Izd-vo VTsSPS Profizdat, 1960. 214 p. (MIRA 13:11)  
(Machinery industry) (Automation)  
(Technical education)

KOVALENKO, I. I. Cand Biol Sci -- (diss) "Improvement of the saliferous soils of Poles'ye and the northern forest ~~and~~ steppe <sup>region</sup> of the UkrSSR." Kiev, 1958. 18 pp (Min of Higher Education USSR. Rostov-on-Don State Univ) 150 copies (KL, 36-58, 111)

SAMBUR, G.N.; KOVALENKO, I.I.

Improved and efficient utilization of saline lowland soils  
in southern Polesye and the northern forest-steppe of the  
Ukraine. Pochvovedenie no.12:36-44 D '59.

(MIRA 13:4)

1. Ukrainskiy nauchno-issledovatel'skiy institut zemledeliya.  
(Ukraine--Alkali lands)

KOVALENKO, I.I.

Studies of the development cycle of some helminths parasitic  
in domestic ducks raised on farms in the shore area of the Sea of  
Azov. Dokl.AN SSSR 133 no.5:1259-1261 Ag '60. (MIRA 13:8)

1. Ukrainskiy nauchno-issledovatel'skiy institut eksperimental'noy  
veterinariy g. Kharkova. Predstavleno akad. K.I.Skryabinym.  
(Taganrog Gulf--Worms, Intestinal and parasitic)  
(Parasites--Ducks)

KOVALENKO, I.I.

Epizootic outbreak of a mixed invasion in chickens. Study Ukr.  
resp. faun. ob-va. paras. no. 28137-140'63 (MIRA 17:3)

1. Ukrainskiy nauchno-issledovatel'skiy institut eksperimental'-  
noy veterinarii.



KOVALENKO, I. I.

KOVALENKO, I. I. -- "Pressure Water Breaks, Combined With Turbine  
Blocks of Hydrostations." Sub 21 Apr 52, Moscow Inst of Engineers of  
Water Economy imeni V. P. Vil'yams. (Dissertation for the Degree of  
Candidate in Technical Sciences).

SO: Vechernaya Moskva, January-December 1952

KOVALENKO, I.I., kandidat tekhnicheskikh nauk.

Twenty-fifth anniversary of the Moscow Institut of Water-Supply  
Engineering. Gidr.i mel. 8 no.5:63-64 My '56. (MLRA 9:8)  
(Moscow--Water-Supply engineering)

*KOVALENKO, I.I.*

AYER'YANOV, S.F.; ALEKSANDROV, B.K.; ASKOCHENSKIY, A.N.; BLIZNYAK, Ye.B.;  
ZAMARIN, Ye.A.; KOVALENKO, I.I.; KOCHINA, P.Ya.; KUZNETSOV, I.A.;  
POSLAVSKIY, V.V.; SULEBNYY, M.F.; TURCHINOVICH, V.T.; FAVORIN,  
N.N.; SHAROV, I.A.

Aleksei Nikolaevich Kostinikov; obituary. Izv. AN SSSR. Otd. tekhn.  
nauk no.10:113-114 (1957). (MIRA 10:12)  
(Kostinikov, Aleksei Nikolaevich, 1887-1957)

KOVALENKO, I. I.

99-58-2-8/9

AUTHOR: Kovalenko, I.I., Dotsent, Director of the Institute

TITLE: The Moscow Institute of Hydraulic Engineering imeni V.R. Williams - Birthplace of Hydro-Meliorative Workers (Moskovskiy institut inzhenerov vodnogo khozyastva imeni V.R. Vil'yamsa - Kuznitsa gidromeliorativnykh kadrov)

PERIODICAL: Gidrotekhnika; Melioratsiya, 1958, # 2, pp 53-59 (USSR)

ABSTRACT: This article deals with the development of hydro-meliorative work in Russia from the beginning of this century and, more specifically, with the founding and development of the Moscow Institute of Hydraulic Engineering. The founding of this institute was planned before World War I, but was realized only in 1930, when the Faculty of Engineers of the Agricultural Academy imeni Timiryazev was transformed into an independent institute. The institute had from the start two aims: 1. Agricultural hydro-technical melioration with special courses on irrigation and drainage. 2. Hydraulic engineering and utilization of water energy. At present there are 3 faculties at the institute: 1. The Hydro-Meliorative Faculty, 2. the Faculty of Hydraulic Engineering and

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The Moscow Institute of Hydraulic Engineering imeni V.R. Williams - Birthplace of Hydro-Meliorative Workers

Hydro-Electrical Power Plants, 3. the Faculty of Mechanization of Hydro-Meliorative Work. During its existence more than 5,000 engineers have graduated from this institute. Many of them have become famous scientists, as, for instance, Professor L.M. Emel'yanov, in charge of the Chair of Constructive Mechanics of the Institute; V.A. Shaumyan, Deputy Director of VNIIGiM; S.A. Altunin; N.A. Yanishevskiy; N.A. Gastunskiy; P.I. Shipenko; Ya.A. Palkuyev; A.N. Kamenskiy; K.A. Slavachevskiy; Academician V.V. Poslavskiy. The collective of scientific workers has published more than 600 scientific studies. The institute has also elaborated method and schemes for large irrigation projects in various parts of the USSR, for instance, the irrigation of 4 million ha along the Volga, the irrigation of 1.5 million ha in Central Asia and the Transcaucasus. The institute also prepared plans for projects to be carried out during the 6th 5-Year Plan.

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Card 2/2

KOVALENKO, I.I., dotsent, land.tekhn.nauk

Design of the interior curvilinear surfaces of penstocks in  
consolidated hydroelectric power stations. Nauch.zap. MIIVKH  
20:60-77 '58. (MIRA 13:6)

(Penstocks)

KOVALENKO, I.I., dotsent.kand.tekhn.nauk

Technique of the production of models of hydraulic structures from  
organic glass (Plexiglas). Nauch.zap. MIIVKH 20:298-312 '58.

(Hydraulic models)

(Plexiglas)

(MIRA 13:6)

KOVALENKO, I.I., dotsent, kand.tekhn.nauk; TKACHENKO, P.Ye., kand.tekhn.  
nauk

Laboratory investigations of unsteady work regimen of a hydro  
unit due to load rejection. Nauch.zap. MIIVNEH 21:46-87  
1959. (MIRA 13:8)  
(Hydraulic turbines)



TRZHETSYAK, M.A.; KOVALENKO, I.I.

The AQ-16 program-controlled multistage electroplating unit.  
Bul.tekhn.-ekon.inform. no.2:9-12 '62. (MIRA 15:3)  
(Electroplating--Equipment and supplies)

KOVALENKO, I.I., inzh.; L'VOVSKIY, Ya.L., inzh.; KUZ'MIN, Yu.P., inzh.

Semiautomatic welding with a magnetized flux. Svar. proizv.  
no.11:31-02 N'63. (MIRA 17:5)

1. Makeyevskiy zavod metallokonstruktsiy i Gosudarstvennyy  
institut po proyektirovaniyu, issledovaniyu i ispytaniyu  
stal'nykh konstruktsiy i mostov "Proyektstal'konstruktsiya".

KOVALENKO, I.I., kand. tekhn. nauk

Use of plastic materials in draining excessively wet soils. Gidr.  
i mel. 16 no.3:15-26 Ag '64. (HHA 17:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki i  
melioratsii imeni A.I. Kostyakova.

ROVALENKO, I.M.

Determining the correlation functions of certain processes associated with servicing problems. Dop. AN URSS no.5:480-481 '58.

(MIRA 11:6)

1. Institut matematiki AN USSR. Predstavleno akademikom AN USSR  
B.V. Gnedenko [Gnedenko, B.V.].  
(Probabilities)

16.6200

39401

S/044/62/000/006/071/127  
B168/B112.

AUTHOR: Kovalenko, I. M.

TITLE: Bayes decision functions for a hypergeometric set of distributions when a choice has to be made between two decisions

PERIODICAL: Referativnyy zhurnal. Matematika, no. 6, 1962, 17, abstract 6V87 (Visnyk Kyivs'k. un-tu, no. 2, ser. astron., matem. ta mekhan., no. 1, 1959, 157-162)

TEXT: A batch contains  $N$  articles,  $k$  of which are rejects and the remaining  $N - k$  are satisfactory;  $k$  is a random value with an arbitrary distribution function. One must adopt either decision 1, i.e. recognize the whole batch as unsatisfactory, or decision 0, i.e. recognize the whole batch as satisfactory.  $W(k, i)$  are losses resulting from the adoption of decision  $i$ ,  $i = 0, 1$ , if the batch contains  $k$  unsatisfactory articles. If (1)  $W(k, 1)$  does not increase in accordance with  $k$ , whilst  $W(k, 0)$  on the other hand does not decrease in accordance with  $k$ ; (2)  $\min \{W(k, 0), W(k, 1)\} = 0$  with all values of  $k$ ; (3) the cost of one Card 1/2

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B168/B112

Bayes decision functions for a...

observation, consisting of the extraction of 1 article from the batch, is constant, then the Bayes decision is described by a straying point  $(n, k_n)$  where  $k_n$  is the number of unsatisfactory articles extracted during  $n$  observations between the upper and the lower limits; decision 1(0) is adopted when the point coincides with the upper (lower) limit.  
[Abstracter's note: Complete translation.]

AUTHOR: Kovalenko, I.N. 21-58-5-2/28

TITLE: Determination of Correlation Functions of Some Processes Associated With Service Problems (Opredeleniye korrelyatsionnykh funktsiy nekotorykh protsessov, svyazannykh s zadachami obsluzhivaniya)

PERIODICAL: Dopovidi Akademii nauk Ukrainy RSR, 1958, Nr 5, pp 480-481. (USSR)

ABSTRACT: The author analyzes a problem of determining the correlation functions of some processes in power consumption by a number of consuming mechanisms. The law of this power consumption can be considered as a stochastic process generated by a sequence of independent random quantities. The author generalizes one of the Ye.B. Dynkin theorems [Ref 2] and determines an expression for the correlation function of the process. This problem was set and its solution was supervised by B.V. Gnedenko, Member of the AS UkrSSR. There are 2 Soviet references.

ASSOCIATION: Institut matematiki AN UkrSSR (Institute of Mathematics of the AS UkrSSR)  
Card 1/2

21-58-5-2/28

Determination of Correlation Functions of Some Processes Associated With Service Problems

PRESENTED: By Member of the AS UkrSSR, B.V. Gnedenko

SUBMITTED: January 21, 1958

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the translation.

1. Hydroelectric power systems--Statistical analysis

Card 2/2

KOVALENKO, I.N. (Kiyev)

One class of optimal resolving functions for a binomial family of distributions. *Tekhn. ver. i statist. 4 no.1:101-105 '59.*

(Samplings (Statistics))

(MIRA 12:3)





KOVALENKO, I.N. (Kiev)

Limit distribution of the first jump. Teor. veroiat. i ee  
prim. 5 no. 4:469-472 '60. (MIRA 13:12)  
(Distribution (Probabilities))

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S/041/60/012/004/008/011  
C111/C222

16.6100 (a/s = 1031)

AUTHOR: Kovalenko, I.N.

TITLE: Investigation of a Multilinear System of Service With Queues  
and a Limited Stay in the System

PERIODICAL: Ukrainskiy matematicheskii zhurnal, 1960, Vol. 12, No. 4,  
pp. 471 - 476

TEXT: Given a service system with  $n$  lines. The system contains a Poisson's stationary flow of claims with the parameter  $\lambda$ . If during the arrival of the claims there are free lines then the service is carried out immediately. The necessary time of service has an exponential distribution with the mean  $1/\mu$ . If during the arrival of the claims all lines are busy then there appear queues. A line which has become free serves at first the claim which arrived at first. If for a claim the waiting time + service time is greater than  $\tau$  then the claim leaves the system without being served to the end.

The described system is investigated with the aid of the  $n$ -dimensional random process  $\xi(t) = \{\xi_1(t), \xi_2(t), \dots, \xi_n(t)\}$ , where  $\xi_i(t) = 0$  if in the moment  $t$  the  $i$ -th line is free;  $\xi_i(t)$  is the time from the

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moment  $t$  till the moment when the  $i$ -th line becomes free. It is stated that  $\xi(t)$  is a Markov process where  $P\{\xi_i(t) \leq \tau, 0 < t < \infty\} = 1$ , and there exists an ergodic stationary distribution for it. Let  $\xi_i(0) = w_i$ ,  $i = 1, \dots, n$ . Let  $x = \{x_1, \dots, x_n\}$ ;  $0 \leq x_i \leq \tau$ ,  $x_{ij} > 0$ ;  $1 \leq j \leq k$ ;  $x_i = 0$ ,  $i \neq i_j$ ,  $1 \leq j \leq k$ . Let  $t > \max\{w_i\}$  be a fixed moment. Let  $u_j$  be the moment of the arrival of the claim  $S_j$  which satisfies the following conditions:   
 1.  $S_j$  arrives before the moment  $t$ ; 2.  $S_j$  is served in the line  $i_j$ ;   
 3. Among all claims which satisfy 1. and 2.,  $S_j$  has arrived last. Let  $v_j$  be the time of service for  $S_j$ . For  $u_j = u_j^0$ ,  $v_j = v_j^0$  let  $\xi(t) = \{\dots x_{j_1}, \dots, x_{j_2}, \dots, x_{j_k}, \dots\}$ . In the general case there holds the inequality

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$$P\{x_i = 0, i \neq i_j, 1 \leq j \leq k; x_{i_j} \leq \xi_{i_j}(t) < x_{i_j} + \Delta\} \leq$$

$$(3) \leq \max_{0 \leq \epsilon_j \leq 1} \max_{z_1, \dots, z_k} P\{u_j \leq \epsilon_j u_j + (1 - \epsilon_j) v_j < z_1 + \Delta, 1 \leq j \leq k\} \leq$$

$$\leq \max\{\lambda^k, \mu^k\} \Delta^k.$$

It shows that the considered measure of probability is absolutely continuous on the k-dimensional manifolds

$$\{0 < x_{i_j} < \tau, 1 \leq j \leq k; x_i = 0, i \neq i_j, 1 \leq j \leq k\}$$

so that there exist functions  $p_k(i_1, \dots, i_k; x_1, \dots, x_k)$  so that

$$\lim_{t \rightarrow \infty} P\{\xi_{i_j}(t) > a_j, 1 \leq j \leq k; \xi_i(t) = 0, i \neq i_j, 1 \leq j \leq k\} =$$

$$= \int_{a_1}^{\infty} \dots \int_{a_k}^{\infty} p_k(i_1, \dots, i_k; x_1, \dots, x_k) dx_1 \dots dx_k \quad (a_j \geq 0)$$

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Investigation of a Multilinear System of Service With Queues and a  
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Let  $p_k(x_1, \dots, x_k) = p_k(i_1, \dots, i_k; x_1, \dots, x_k)$ . Under the assumption  
that the distribution of  $\xi(t)$  is stationary it is stated that the  
distribution of limits of the process is described by the differential  
equations

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$$\left. \begin{aligned} \lambda p_0 &= n p_1(0), \\ \frac{\partial p_k}{\partial x_1} + \dots + \frac{\partial p_k}{\partial x_k} - \lambda p_k + (n-k) p_{k+1}(x_1, \dots, x_k, 0) + \\ &+ \frac{\lambda \mu}{n-k+1} \sum_{i=0}^k p_{k-1}(x_1, \dots, x_{i-1}, x_{i+1}, \dots, x_k) e^{-\nu x_i} = 0 \\ &(1 \leq k \leq n-1, 0 < x_i < \tau), \\ \frac{\partial p_n}{\partial x_1} + \dots + \frac{\partial p_n}{\partial x_n} - \lambda p_n + \lambda \mu \sum_{i=1}^n \int_0^{\min(x_i)} p_n(x_1, \dots, x_{i-1}, z, \\ &x_{i+1}, \dots, x_n) e^{-\nu(x_i-z)} dz + \\ &+ \lambda \mu \sum_{i=1}^n e^{-\nu x_i} p_{n-1}(x_1, \dots, x_{i-1}, x_{i+1}, \dots, x_n) = 0 \quad (0 < x_i < \tau). \end{aligned} \right\} (4)$$

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Investigation of a Multilinear System of Service With Queues and a Limited Stay in the System

with the boundary conditions

$$p_k(\tau, x_2, \dots, x_k) = \frac{\lambda}{n-k+1} p_{k-1}(x_2, \dots, x_k) e^{-\mu \tau} \quad (1 \leq k \leq n-1)$$

$$(5) \quad \left\{ \begin{array}{l} p_n(\tau, x_2, \dots, x_n) = \lambda p_{n-1}(x_2, \dots, x_n) e^{-\mu \tau} + \\ \quad + \int_0^{\min x_2, \dots, x_n} p_n(z, x_2, \dots, x_n) e^{-\mu(\tau-z)} dz \end{array} \right.$$

(it means  $p_k(\dots, \tau, \dots) = p_k(\dots, \tau - 0, \dots)$ ) .

The solution of (4)-(5) reads

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Investigation of a Multilinear System of Service With Queues and a  
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$$\left. \begin{aligned} p_k(x_1, \dots, x_k) &= p_0 \frac{\lambda^k (n-k)!}{n!} \exp \left\{ -\mu \sum_{i=1}^k x_i \right\} \\ (1 \leq k \leq n-1, 0 \leq x_i \leq \tau) \\ p_n(x_1, \dots, x_n) &= p_0 \frac{\lambda^n}{n!} \exp \left\{ -\mu \sum_{i=1}^n x_i + \lambda \min_{1 \leq i \leq n} \{x_i\} \right\} \\ (0 \leq x_i \leq \tau). \end{aligned} \right\} (6)$$

The different characteristics of the considered service system are obtained from (6), e.g. the distribution of busy lines, the probability of a complete engagement of the system, the distribution of the waiting time, the probability of a complete service. The author points to an error in the formulas of Barrer (Ref. 1).

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The author mentions B.I. Sevast'yanov. He thanks B.V. Gnedenko, Academician  
of the Academy of Sciences of the Ukrainian SSR.  
There are 3 references : 1 Soviet and 2 American.

[Abstracter's note: (Ref. 1) concerns D.Y. Barrer, Operation Research,  
1957, No. 5]

SUBMITTED: March 10, 1960

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16.6100

25018

S/052/61/006/002/005/006  
C111/C222

AUTHOR: Kovalenko, I.N.

TITLE: Some queuing problems with restrictions

PERIODICAL: Teoriya veroyatnostey i yeye primeneniye, v.6. no.2, 1961,  
222 - 228

TEXT: The present paper was composed by a number of problems treated in the section for probability calculus and mathematical statistics of the Institute of Mathematics of the Academy of Sciences Ukr. SSR under the leading of B.V. Gnedenko. The author considers an extensive queuing scheme for the case of a single server and Poisson input. The simple queuing, a system with losses and a system with restrictions on waiting time or spending time are exceptional cases of this scheme. Let the time necessary for the service be a random term  $\tau$  with the distribution function  $H(x)$ ;  $H(+0) = 0$ . Every customer may leave the system after a complete service or still before the beginning of the service depending 1) on the fact when the preceding customers leave the system, 2) on  $\tau$ , 3) on the following restrictions:

1. If the system is occupied then the customer may wait that it becomes free for a time which is not greater than a random term  $\gamma_1$

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Some queuing problems 25018 ...

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with the distribution function  $B(x)$ .

2. If after a waiting time  $y$  the service begins then the customer can wait for the end of the service not longer than a random time  $\gamma_2$ ,

where  $P \{ \gamma_2 < x | \gamma = y \} = G_y(x) ; G_y(+0) = 0, y \geq 0$

(let  $G_y(x)$  be measurable in  $y$  for every  $x$ ). The service of the customer arriving in the moment  $t$  begins immediately (if the system is free) or in the moment  $s$  if all customers arrived before the moment  $t$  have leaved the system. Let the influx of the customers depend on a parameter  $\lambda$ .

Thus the scheme depends on  $\lambda, H(x), B(x), G_y(x)$ . For  $B(x) \equiv 0, G_y(x) \equiv 0$

e.g. one obtains a simple queuing.

Let  $F(t, x) = P \{ \xi(t) < x \}$ , where  $\xi(t)$  is a random process, where

$\xi(t) = 0$  if the system is free in the moment  $t$ , and  $\xi(t)$  = the time from the moment  $t$  up to the moment where all customers leave the system if in the moment  $t$  the system was not free.

Theorem 1 : If the time of the stay in the system is bounded then for

Card 2/4

Some queuing problems 25018 ....

S/052/61/006/002/005/006  
C111/C222

$t \rightarrow \infty$  there exists a unique stationary distribution  $F(x) = \lim_{t \rightarrow \infty} F(t, x)$ , where the convergence is uniformly exponential with respect to the limit value.

Let the process  $\xi(t)$  have a stationary initial distribution then  $F(t, x) = F(x)$  holds for all  $t \geq 0$ .

Theorem 2 : The distribution function  $F(x)$  has a jump in the point  $x = 0$  and is absolutely continuous for  $x > 0$ . The derivative  $p(x) = F'(x)$  is defined almost everywhere as the single integrable solution of the equation

$$p(x) - \lambda \int_0^x [1 - B(y)] [1 - G_y(x - y)] [1 - H(x - y)] p(y) dy = -\lambda F(0) [1 - G_0(x)] [1 - H(x)] \quad (3)$$

with the normalization

$$F(0) + \int_0^T p(t) dt = 1 \quad (4)$$

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Some queuing problems 25018 ....

S/052/61/006/002/005/006  
C111/C222

It is shown that different characteristics of the service (e.g. the distribution function of the real waiting-time) can be expressed by  $F(x)$ . Some examples are considered. The author mentions S.M. Brodi. He thanks B.V. Gnedenko and V.S. Koroljuk for the theme and advices. There are 4 Soviet-bloc and 2 non-Soviet-bloc references. The references to the two English-language publications read as follows : D.Y. Barrer, Queuing with impatient customers and ordered service, Operations Res., 5 (1957), 650 - 656, J.L. Doob, Veroyatnostnye protsessy (Stochastic processes), M., I'l, 1956.

SUBMITTED: October 7, 1959

Card 4/4

45293

S/562/62/000/011/008/008  
E140/E135

AUTHOR: Kovalenko, I.N.

TITLE: The conditions for the probabilities of the states of a queuing system to be independent of the form of time distribution of service

SOURCE: Akademiya nauk SSSR. Institut problem peredachi informatsii. Problemy peredachi informatsii. no.11. 1962. Voprosy teorii pererabotki i raspredeleniya informatsii. 147-151.

TEXT: The problem is studied in terms of the theory of reliability, since applications are intended in this field. The conditions of the problem are as follows. A system is assumed consisting of  $s$  groups of elements; the  $j$ -th group contains a finite number  $N_j$  of elements; the elements can fault according to the following rule: if at time  $t$  there are  $k_j$  elements faulted in the  $j$ -th group, the probability that one further element will fail in that group during the small time interval  $\Delta t$  is proportional to that interval, while the probability that two

Card 1/4

The conditions for the probabilities... S/562/62/000/011/008/008  
E140/E135  
or more will fail in the  $j$ -th group is infinitesimal. There is a large number of service mechanisms, so that repair of each failed element is started immediately. The time for repairing the  $\xi_j$ -th element in the  $j$ -th group is a random quantity with the distribution:

$$\Phi_j(x) = P\{\xi_j \geq x\}.$$

Let the mathematical expectation of the random quantity  $\xi_j$  be  $\tau_j < \infty$ , and denote by  $p(k_j, t)$  the probability of the event  $(k_1, \dots, k_s, t)$ ; then, if for  $t \rightarrow \infty$  the limit of  $p(k_j, t)$  which we denote by  $p(k_j)$  exists and is independent of the initial conditions, we have the following theorem:  
For all  $k_1, \dots, k_s$ , for there to exist the  $p(k_j)$ , defined by the set of parameters  $\lambda_j(k_1, \dots, k_s)$  (the probability for exactly one further fault in the  $j$ -th group in the presence of  $k_j$  faults for unit time) and  $\{\tau_j\}$ , independently of the form of  $\{\Phi_j\}$ .

Card 2/4



The conditions for the probabilities... S/562/62/000/011/008/008  
E140/E135  
it is necessary and sufficient that for any set of  $k_j$  and any two sets

$\{i_1, \dots, i_{k_1 + \dots + k_s}\}$  and  $\{i'_1, \dots, i'_{k_1 + \dots + k_s}\}$   
in each of which exactly  $k$  elements are equal to  $\nu$ ,  $1 \leq \nu \leq s$   
the equality

$$\prod_{\ell=1}^{k_1 + \dots + k_s} \lambda_{i_\ell} \left( \sum_{m=1}^{\ell-1} \delta_{1, i_m}, \dots, \sum_{m=1}^{\ell-1} \delta_{s, i_m} \right) = \prod_{\ell=1}^{k_1 + \dots + k_s} \lambda_{i'_\ell} \left( \sum_{m=1}^{\ell-1} \delta_{1, i'_m}, \dots, \sum_{m=1}^{\ell-1} \delta_{s, i'_m} \right) \quad (1)$$

be satisfied, where  $\delta_{ij} = 1$  for  $i = j$ ,  $\delta_{ij} = 0$  for  $i \neq j$ .

Card 3/4

KOVALENKO, I. N.		
Transactions of the 81st Conference (Cont.)		BCV/6371
58.	Belyayev, Yu. K. "Ruled" Markov Processes and Their Application to Problems in the Theory of Reliability	309
59.	Bobrov, A. A., and D. Z. Arov. Flows of Random Events Without Aftereffect	325
60.	Bondareva, O. V. Existence of a Solution Coinciding With the Kernel in a Game of n Persons	337
61.	Girsanov, I. V. Minimax Problems in the Theory of Diffusion Processes	339
62.	Gnedenko, B. V., Yu. K. Belyayev, and I. N. Kovalenko. Basic Trends of Investigations in the Theory of Queues	341
63.	Kovalenko, I. N. On a Method in the Theory of Queues	357
64.	Kolchin, V. P. Some Problems in the Theory of Dynamic Games	359

Transactions of the 6th Conf. on Probability Theory and Mathematical Statistics and of the Symposium on Distributions in Infinite-Dimensional Spaces held in Vil'nyus, 5-10 Sep '60. Vil'nyus: Gospolitizdat Lit SSR, 1962. 493 p. 2500 copies printed

L 1505-65 EWT(8)/EWT(1)/EWP(6)/EWP(v)/T/REG(b)-2/EWP(k)/EWP(h)/EWP(l)/EWA(h)  
 PMA/1-4/P1-4/P2-4/P3-4/P4-4

ACCESSION NR: AT5002487

S/2720/64/002/000/019/0205

AUTHOR: Kovalenko, I. N.

TITLE: Some problems in the theory of reliability of complex systems

SOURCE: Kibernetika - na sluzbu kommunizmu, v. 2, 1964. Teoriya nadezhnosti i teoriya massovogo obsluzhivaniya. (Theory of reliability and theory of mass service), 194-205

TOPIC TAGS: Markov process, reliability theory, mass service theory

ABSTRACT: A mathematical scheme for mass-service processes, proposed by the author earlier (same source, p. 352), is applied systematically to problems of reliability of complex systems. A recurrence method is developed for determining the main characteristics of reliability, and is supplemented with a method for estimating the number of iterations necessary to ensure the specified accuracy of the results. It is pointed out that present investigations of mass-service systems lack a unified approach leading to a universal algorithm for the definition of the main characteristics of the system. The author's method is based on the

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1 2509-65

ACCESSION NR: AT5102487

theory of the Markov processes. The subject headings are: Introduction. 1. Schematization of service systems. 2. Reduction of the problems of reliability theory to a general scheme of mass-service processes. 3. Use of recurrence formulas. 4. Estimate of the remainder terms. Orig. art. has: 25 formulas.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: IF, MA

REF SOV: 002

OTHER: 001

Card 2/2

ACCESSION NR: AP4044826

S/0280/64/000/004/0077/0080

AUTHOR: Kovalenko, I.N. (Moscow)

TITLE: The construction of highly complex Boolean functions using the Monte Carlo method

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 4, 1964, 77-80

TOPIC TAGS: Boolean function, Monte Carlo method, algebraic logic function algorithm, logical analysis, logic function

ABSTRACT: The paper discusses an algorithm, containing random elements, for constructing functions of the algebra of logic of many variables. It is based on the concept of the complexity of a Boolean function of many variables introduced by O.B. Lupanov (Problemy\* kibernetiki, Fizmatgiz, 1963, No. 11). In the approach employed in this paper, a Boolean function  $f(x_1, \dots, x_n; \xi_1, \dots, \xi_N)$  is assumed which has the property that if  $\{\xi_i\}$  is considered to be a sequence of the following random quantities,  $P\{\xi_i = 0\} = P\{\xi_i = 1\} = 1/2$ , then, with sufficiently high probability, the function  $f(x_1, \dots, x_n; \xi_1, \dots, \xi_N)$ , as a function of  $x_1, \dots, x_n$ , will have a sufficiently high complexity.

Card 1/2

VASIL'YEV, P.I.; KOVALENKO, I.N.

Remark on stationary streams of uniform events.

Ukr.mat.zhur. 16 no. 3:374-375 '64. (MIRA 17:7)

144752-55  
ACCESSION NR: AP5007245

3/0280/65/000/001/0014/0020

AUTHOR: Kovalenko, I. N. (Moscow)

4  
B

TITLE: Some classes of complicated systems. Part 2

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 1, 1965, 14-20

TOPIC TAGS: complicated system, complex system

ABSTRACT: This is a continuation of the author's investigation of the piecewise-linear aggregate published earlier (Izv. AN SSSR, Tekhn. kibernetika, 1964, no. 6). A class of functions describing the system efficiency is introduced. A transformation of coordinates that permits reducing an arbitrary piecewise-linear aggregate to a "canonical" form is shown. The canonical form is defined by a few parameters, one of which is linearly time-varied while others are piecewise-constant. Simulation of a complicated system is considered, and the complexity of reproducing the system functioning is quantitatively evaluated. Finally, the

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1 44757-65

ACCESSION NR: AP5007245

aggregate is considered as a converter of random process, and the characteristics of the output process, when the input process meets certain conditions, are examined; the properties preserved in passing the process through the aggregate are indicated. Orig. art. has: 11 formulas.

ASSOCIATION: none

SUBMITTED: 13 Nov 64

ENCL: 00

SUB CODE: DP

NO REL SOY: 005

OTHER: 000

Cord

21



KOVALENKO, I.N. (Moskva)

Some classes of complex systems. Izv. AN SSSR. Tekh. kib. no.6:3-9  
N-D 14. (MIRA 18:3)

KOVALENKO, I.N.

Complexity of the representation of events in probability and  
determinate finite automata. Kibernetika no.2:35-36 Mr-Apr '65.  
(MIRA 18:5)

1.63501-65 (TYP(x))

AGC 155121 NI AP5016965

UR/0250/65/000/003/0003/0011

AUTHOR: Kovalenko, I. N. (Moscow)

TITLE: Some classes of complex systems. III

SOURCE: AN SSSR. Izvestiya Tekhnicheskaya kibernetika, no. 3, 1965, 3-11

TOPIC TAGS: sectionally linear system, complex system, ergodic theory, Markov process, random process

16  
ABSTRACT: General analytical methods are derived for the study of random processes connected with the operation of sectionally linear complex systems defined in the previous papers of the present series (Izv. AN SSSR, Tekhnicheskaya kibernetika, 1964, no. 6; Ibid., 1965, no. 1). The operating system is associated with an enclosed Markov circuit (see, D. Kendall, Stochastic processes encountered in the theory of recurrence and their analysis by means of enclosed Markovian circuits, Sb. perev. Matematika, Izd-vo inostr. lit., 1959, 3:5) the properties of which are subsequently investigated. A class of distributions is specified comprising the distributions of the processes under consideration. The article concludes with the ergodic theory of sectionally linear Markov processes and presents the proof of the ergodic theorem. Orig. art. has: 31 formulas.  
Card 1/2

I 63604-6	
ACCESSION NR:	AP5016913
ASSOCIATION:	none
SUBMITTED:	26 Feb 65
NO REF SV:	003
ENCL:	00
OTHER:	003
SUB CODE: MA	

Card 2/2

L 53001-5 INT(a)/T LJP(1)

ACCESSION NR: AP5010565

UR/0020/65/161/003/0517/0519

AUTHOR: Kovalenko, I. V.

TITLE: Limit theorem for a determinant in the class of Boolean functions

16  
B

SOURCE: AN SSSR. Doklady, 7, 161, no. 3, 1965, 517-519

TOPIC TERMS: probability; linear system

ABSTRACT: The author proves the following theorem: Let  $\{a_{ij}\}$ ,  $1 \leq i, j \leq n$  be independent random variables with  $P\{a_{ij} = 1\} = p_{ij} = 1 - P\{a_{ij} = 0\}$ . If

$$0 < p_{ij} \leq 1, \quad 0 \leq p_{ij} \leq 1, \quad 1 \leq i, j \leq n, \quad (1)$$

then

$$\lim_{n \rightarrow \infty} \frac{\Delta_n}{2^n} = \frac{1}{2} \quad (2)$$

Here  $\Delta_n = \det [a_{ij}]$ , and  $\Delta_n = \{ \Delta_n = 1 \}$ . This result is useful because the

system

$$\sum_{j=1}^n a_{ij} x_j = b_i, \quad 1 \leq i \leq n, \quad (3)$$

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L 53001-65

ACQUISITION: AP501056

is uniquely solvable in the class of Boolean functions if and only if  $\Delta_n = 1$ .  
Orig. ar. has 7 formulas.

ABSTRACT: none

SUBMITTED: 2 Sept

1001: 00

SUB CODE: MA

NO REF. BY: 100

OTHER: 000

2/2

VEKSLER, V.I.; MARKOVICH, A.V.; ~~KOVALENKO, I.N.~~

Aminodeoxy carbohydrates, derivatives of tetrasubstituted  
ammonium with long-chain alkyl radicals. Zhur. ob. khim.  
39 no.8:1504-1505 Ag '65. (MIRA 18:6)

1. Leningradskiy institut sovetskoy torgovli.

L 16153-66

EWI(d)

I.P(c)

ACC NR: AP5026974

SOURCE CODE: UR/0020/65/164/005/0979/0981

AUTHOR: Kovalenko, I. N.

ORG: none

TITLE: Regenerating the characteristics of a system by observing the output flow

SOURCE: AN SSSR. Doklady, v. 164, no. 5, 979-981

TOPIC TAGS:

operations research, industrial condition

ABSTRACT: According to P. J. Burke, (Operations Res., 4 (1956)) the output flow was elementary in an unilinear system of mass maintenance if the duration of maintenance was distributed according to the exponential law. It followed that in such a case it was impossible to find the mathematical expectation of maintenance duration over the entire set of multidimensional distributions which characterized the output flow. Such was not the case if the load of the system was less than the critical load and if the law of the maintenance duration distribution was other than exponential. Under these assumptions it was shown that the maintenance duration distribution could be uniquely regenerated by means

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UDC: 51 : 330.115



L 16153-66

ACC NR: AP5026974

of joint distribution of two consecutive maintenance intervals. Orig. art. has:  
8 formulas.

SUB CODE: 12 / SUBM DATE: 08Mar65/ ORIG REF: 002/ OTH REF: 003

Card 2/2

KOVALENKO, I.P., polkovnik meditsinskoy sluzhby

Mechanized field laundry. Voen.-med. zhur. no.4:79-82 Ap '56.

(LAUNDRIES, MILITARY)

(MLRA 9:9)

ZABORENKO, K.B.; BABESHKIN, A.M.; KOVALENKO, I.V.

Emanation and leaching of radium isotopes from monazite. Radio-  
khimii 1 no.6:738-741 '59. (MIRA 13:4)  
(Radium--Isotopes) (Monazite)



KOVALENKO, I.V., kandidat meditsinskikh nauk; PINCHUK, N.V.

Studying the morbidity of the population according to data on the number of visits. Sov. zdrav. 15 no.4:31-35 J1-Ag '56. (MLRA 9:9)

1. Iz kafedry organizatsii zdravookhraneniya (zav. - prof. B.M. Shklyar) Dnepropetrovskogo meditsinskogo instituta (dir. - dotsent D.P.Chukhriyenko)

(VITAL STATISTICS.

morbidity calculation (Rus))

KOVALENKO, I.V., kand.med.nauk; PINCHUK, N.V. (Dnepropetrovsk)

Public help in the work of a hospital. Sov.zdrav. 21 no.7:20-22 '62.  
(MIRA 15:8)

1. Iz 4-y gorodskoy bol'nitsy (glavnyy vrach Ye.N.Fedotov)  
Dnepropetrovsk.

(DNEPROPETROVSK--HOSPITALS)

KOVALENKO, K. A.

4557. KOVALENKO, K. A. ustroystvo dlya mekhanicheskoy podachi dosok na tsirkul'nyy  
pilu.-/t. b. monesova. mekhanizm dlya vyrabotki steklyannykh ugol'nikov. m. 1, 1954.  
3 s. s chert. 26 sm. (glavstrysteklo MPSM SSSR. obmen opytom v stekol'noy  
prom-sti inform. listok old. tekhn. informatsii tresta <<ORGSTEKLO>> no. 14).  
350 ekz. bespl. sost. ukazany v kontse teksta. /54-15653zh/

674.053/666.17.05

SO: Knizhnaya Letopis', Vol. 1, 1956

MATSKIN, L.A.; KOVALENKO, K.I.; BABUKOV, V.G.; KONSTANTINOV, N.N.;  
 PONOMAREV, G.V.; PAL'CHIKOV, G.N.; PELENICHKO, L.G.; SHAMARDIN,  
 V.M.; GLADKOV, A.A.; BRILLIANT, S.G.; SHEVCHUK, V.Ya.; SOSHCHEN-  
 KO, Ya.M.; ALEKSANDROV, A.M.; BUNCHUK, V.A.; KRUPENIK, P.I.;  
 MAYEVSKIY, V.Ya.; YELSHIN, K.V.; GAK, Kh.A.; POTAPOV, G.M.;  
 KARDASH, I.M.; SNEPURO, S.I.; KAPLAN, S.A.; SELIVANOV, T.I.;  
 YEREMENKO, N.Ya.; ZHUZH, A.D.; USTINOV, A.A.; GIRKIN, G.M.;  
 VOLOBUYEV, F.P.; CHERNYAK, I.L., nauchnyy red.; DESHALYT, M.G.,  
 vedushchiy red.; GENNAD'YEVA, I.M., tekhn.red.

[Combating losses of petroleum and petroleum products; materials  
 of the All-Union Conference on Means of Combating Losses of  
 Petroleum and Petroleum Products] Bor'ba s poteriami nefi i  
 nefteproduktov; po materialam Vsesoiuznogo soveshchania po bor'be  
 s poteriami nefi i nefteproduktov. Leningrad, Gos.nauchno-tekhn.  
 izd-vo nefi i gorno-toplivnoi lit-ry, 1959. 157 p. (MIRA 13:2)

1. Nauchno-tekhnicheskoye obshchestvo neftyanoy i gazovoy pro-  
 myshlennosti.

(Petroleum industry)



KOVALENKO, Konstantin Iosifovich; MURAV'YEV, I.M., red.; PETROVA,  
Ye.A., ved. red.

[New methods for development and petroleum production]  
Novye metody razrabotki i nefteotdacha plastov. Moskva,  
Nedra, 1964. 157 p. (MIRA 18:1)

KOVALENKO, K.I.

Casinghead gas and its use on oil fields: Bashkir A.S.S.R.

Neft. khoz. 40 no.12:48-54 D '62.

(MIRA 16:7)

(Bashkiria)

GALONSKIY, P.P.; KOVALENKO, K.I.; KUVYKIN, S.I.; MINGAREYEV, R.Sh.;  
MURAVLENKO, V.I.; OBNISOV, A.D.; SHASHIN, V.D.; SHMAREV, A.T.

Volga-Ural region is one of the largest petroleum bases of  
the country. Neft. Khoz. 42 no.9/10:56-64 S-O '64.

(MIRA 17:12)

KOVALENKO, K.I. MARSHASIN, I.L.; BEREZIN, V.M.; PANTELEYEV, V.G.

Increasing the oil yield of beds by injecting carbonated water.  
Neft. khoz. 42 no. 11:6-9 N '64 (MIRA 18:2)

KOVALENKO, K.I.; BELOZHEROV, G.I.

Reserves for increasing petroleum production in Bashkir fields.  
Neft. khoz. 43 no.9:22-27 S '65.

(MIRA 18:10)

Kovalenko, K.N.

3-3-10/40

**AUTHORS:** Sibiriyakov, A.P., Dotsent, and Kovalenko, K.N., Dotsent

**TITLE:** Problems of Instruction in "Machine Parts" (Voprosy prepodavaniya kursa "Detali Mashin")

**PERIODICAL:** Vestnik Vysshey Shkoly, March 1957, # 3, p 48-51 (USSR)

**ABSTRACT:** The authors express their dissatisfaction with the organization and method of instructing the subject "Machine Parts". They point out that the various teaching plans for this subject, vary from 14 to 102 hours, and that there is a lack of correlation between the number of hours allowed for lectures and practical training. In the authors' opinion the number of hours for both types of training should correspond. They also say that the course extends over an excessive number of semesters and claim that the teaching plans are changed almost every year while the programs remain the same continuously. They ask that instructors be assigned to lead student practical training, that a manual of instruction on "Machine Parts" be prepared, and they complain about the lack of training aids for instructional purposes.

Card 1/2

KOVALENKO, K. N.

K. N. Kovalenko and N. A. Trifonov - "Physico-chemical analysis of the systems pyridineethyl aniline and quinoline-ethyl aniline. I. Viscosity, density, and refractive index." (p. 1331)

SO: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1940, Vol. 20, No. 7

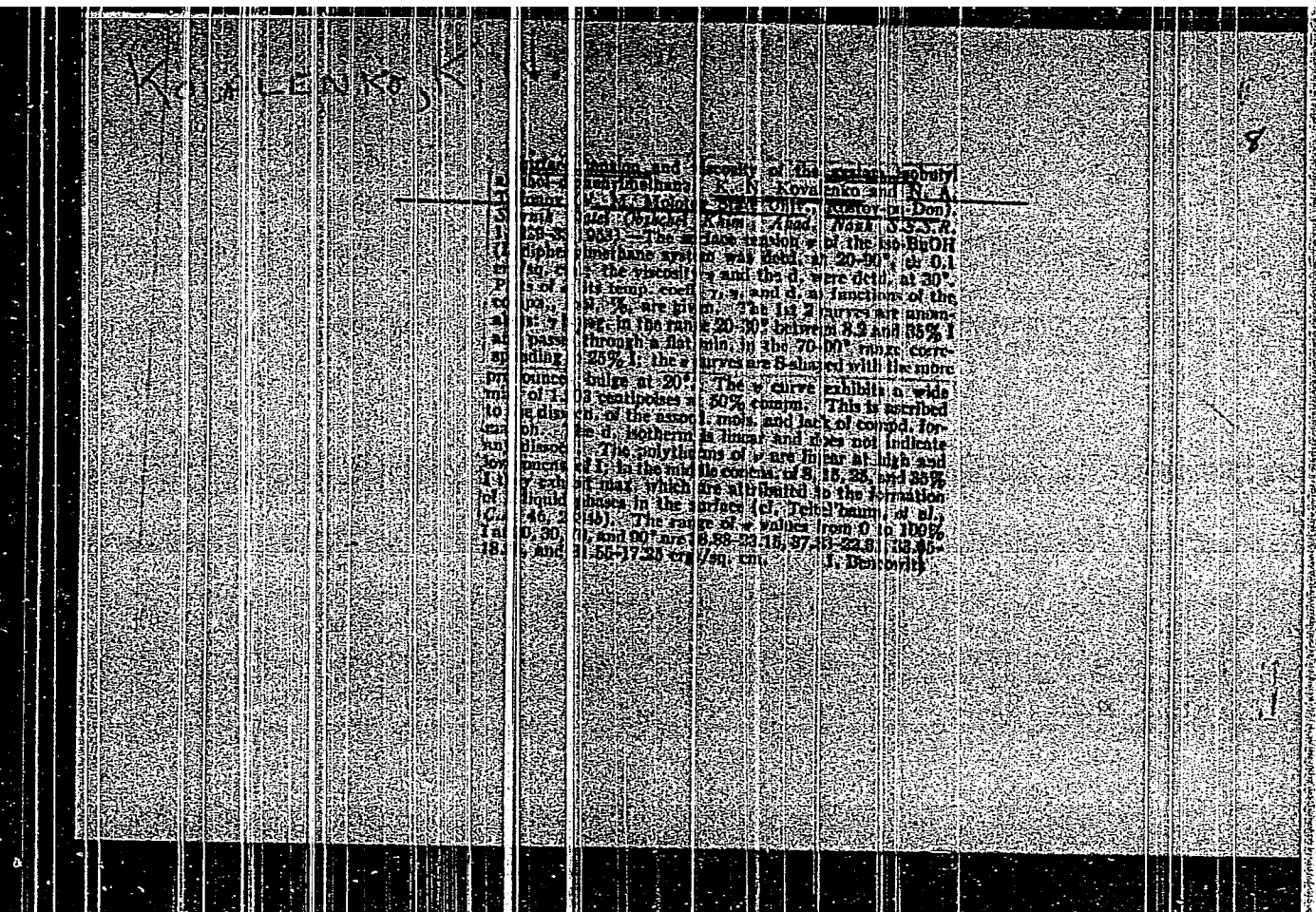
Surface tension and refractive index of the ternary system: water-acetic anhydride-acetic acid. N. A. Tikhonov and K. N. Korotkiy. *Dokl. Akad. Nauk SSSR*, 1947, 118-62 (in Russian).— (1) In the binary system  $\text{Ac}_2\text{O}-\text{Me}_2\text{CO}$ , the surface tension  $\sigma$  is a linear function of the composition, contrary to the expected curvilinear isotherms (on the basis of the dipole moments);  $\sigma$ , at 25, 40, 70 mole %  $\text{Me}_2\text{CO}$ , at 0°,  $\sigma = 23.01$ , 20.61, 20.43 dyne/cm.; at 25°, 30.00, 27.62, 25.35; at 40°, 36.10, 33.82, 33.63. (2) For the ternary system  $\text{H}_2\text{O}-\text{Ac}_2\text{O}-\text{Me}_2\text{CO}$ ,  $\sigma$  is given at 25° along isocenters corresponding to 10, 25, 50, and 75 mole %  $\text{Me}_2\text{CO}$  and  $\text{Ac}_2\text{O}:\text{H}_2\text{O} = 1:0, 1:3, 2:3, 1:1, 3:1$ , and (1:1) moles; selected data:  $\text{Me}_2\text{CO}$  25 mole %,  $\sigma = 21.05, 20.10, 20.33, 27.51, 27.77, 24.80$ ;  $\text{Me}_2\text{CO}$  50,  $\sigma = 21.26, 27.53, 26.88, 26.61, 25.76, 27.18$ ;  $\text{Me}_2\text{CO}$  75,  $\sigma = 21.34, 25.10, 24.97, 24.90, 25.17, 25.17$ ; for the derived systems  $\text{AcOH}-\text{Me}_2\text{CO}$  at 25°, at 0, 25, 50, 75, and 100 mole %  $\text{Me}_2\text{CO}$ ,  $\sigma = 17.23, 27.50, 26.61, 24.90$ , and 23.04. Thus, contrary to previous findings (Hammik and Andrews, C.A. 23, 3433) there is a distinct max. (at about 1 mole %  $\text{Me}_2\text{CO}$ ) which can only be due to chem. interaction. The isothermal  $\sigma$  surface of the ternary system  $\text{H}_2\text{O}-\text{Ac}_2\text{O}-\text{Me}_2\text{CO}$  at 25° consists of two surfaces intersecting along a singular synclinal line representing the systems  $\text{AcOH}-\text{Me}_2\text{CO}$ . (3) The isothermal ternary  $\sigma$  surface of  $\text{H}_2\text{O}-\text{Ac}_2\text{O}-\text{Me}_2\text{CO}$  at 25° slopes steeply from  $\text{H}_2\text{O}$  down towards both  $\text{Me}_2\text{CO}$  and  $\text{AcOH}$ ; on this surface, the

isocenters corresponding to 10, 25, 50, and 75 mole %  $\text{Me}_2\text{CO}$  pass through max. shifted to the  $\text{H}_2\text{O}-\text{Me}_2\text{CO}$  side of the triangle. Selected data:  $\text{H}_2\text{O}:\text{AcOH} = 4:1, 1:1, 1:4$  moles,  $\text{Me}_2\text{CO}$  10 mole %,  $\sigma = 34.68, 32.15, 29.01$ ;  $\text{Me}_2\text{CO}$  25,  $\sigma = 31.05, 20.10, 28.33$ ;  $\text{Me}_2\text{CO}$  50,  $\sigma = 27.59, 27.60, 26.88$ ;  $\text{Me}_2\text{CO}$  75,  $\sigma = 25.24, 25.10, 24.97$ . (4) In analogy with the  $\text{H}_2\text{O}-\text{Ac}_2\text{O}-\text{Me}_2\text{CO}$  system, the isothermal ternary  $\sigma$  surface at 25° (T. and Khalesova, *Sbornik Referatov VI Mendeleevsk. Sessii*, 2, 66(1932)) of  $\text{CH}_3\text{CH}_2\text{NCS}$ -piperidine-PhMe consists of two sheets, convex to the plane of the base triangle, and intersecting in a singular anticlinal line corresponding to formation of allylpiperidylthiours. In contrast thereto, the  $\sigma$  surface of the system  $\text{C}_6\text{H}_5\text{PhMe}-\text{m}-\text{CH}_3\text{Me}$  (T. and Tikhov, *Byull. Vsesoyuz. Khim. Obshchestva im. D. I. Mendeleeva* 1940, 1-2) is monotonic, slightly convex to the triangle plane. (5) Refractive indexes  $n_D$  were detd. for all 3 binary systems at 20° and 40°. Selected data:  $\text{H}_2\text{O}-\text{Ac}_2\text{O}$ , 20, 40, 60, 80 mole %  $\text{H}_2\text{O}$ ,  $n_D = 1.38271, 1.37648, 1.37243$  (min.), 1.37645, 1.37272,  $n_D = 1.37607, 1.36864, 1.36810$  (min.), 1.36980, 1.35712;  $\text{H}_2\text{O}-\text{Me}_2\text{CO}$ , 20, 60, 80 mole %,  $n_D = 1.36183, 1.36563$  (max.), 1.35900,  $n_D = 1.35539, 1.35749$  (max.), 1.35254;  $\text{Me}_2\text{CO}-\text{Ac}_2\text{O}$ , 20, 60, 80 mole %  $\text{Me}_2\text{CO}$ ,  $n_D = 1.36491, 1.37434, 1.36720$ ,  $n_D = 1.37711, 1.36585, 1.35819$ . In the latter binary system, the curves, concave to the axis of compn., may indicate either chem. interaction or assocn. of components. (6) For the ternary system  $\text{H}_2\text{O}-\text{Ac}_2\text{O}-\text{Me}_2\text{CO}$ ,  $n$  is given at 25° along isocenters corresponding to 20, 40, 60, and 80 mole %  $\text{Me}_2\text{CO}$ , and  $\text{H}_2\text{O}:\text{Ac}_2\text{O} = 4:1, 3:2, 1:1, 2:3, 1:4$  moles. Selected data:  $\text{Me}_2\text{CO}$  40 mole %,  $n =$



Physicochemical analysis of the systems pyridine-*N*-ethylamine and quinoline-*N*-ethylamine. I. Viscosity, specific weight, and refractive index. K. N. Kovalevskiy and N. A. Trifonov (Rostov State Univ.). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 36, 1131-4 (1962); *J. Gen. Chem. U.S.S.R.* 23, 1175-83 (1962).—Measurements of  $\eta$  and  $d$  for the systems pyridine (I)-*N*-ethylamine (II) and quinoline (III)-*N*-ethylamine were made at 0, 20, and 70°, and  $n$  was measured at 20 and 40° for the former system and at 20° for the latter. The viscosity  $\eta$ -concn. (mole percent) curves in the system I-II are slightly concave towards the concn. axis, the curvature increasing with decreasing temp. The  $d$ -concn. curves are less concave, and the curvature increases with increasing temp.; the  $\eta$ -concn. and  $n$ -concn. curves are concave and essentially parallel. At 20°, e.g., values of mole percent I,  $\eta$  (centipoises),  $d$ , and  $n$  are, resp.: 0, 2.170, 0.9421, 1.5540; 25, 2.030, 0.9667, 1.5487; 50, 1.742, 0.9718, 1.5402; 75, 1.379, 0.9772, 1.5270; 100, 0.968, 0.9328, 1.5082. The deviation of the  $\eta$ -concn. curve from linearity is attributed to the formation of a chem. compd. that is largely dissociated at temps. of 0° and above. In the system III-II, the  $\eta$ -concn. curve shows a sharp max. at 0° at a concn. of II of 30-35 mole %, which becomes progressively broader and less pronounced as the temp. is increased. The  $d$ -concn. curves are very slightly concave towards the concn. axis at all temps.; and the  $n$ -concn. curve at 21° is a straight line. At 20° values of mole percent III,  $\eta$  (centipoises),  $d$ , and  $n$  are, resp.: 25, 3.025, 0.9031, 1.5726; 51, 3.884, 1.0290, 1.5121; 65, 4.083, 1.0510, —; 70, 4.102, 1.0609, —; 75, 4.067, 1.0616, 1.5088; 100, 3.845, 1.0029, 1.5360. The max. in the  $\eta$ -concn. curves is also attributed to chem. compd. formation between the constituents of the system.

Arild J. Miller



KOVALENKO, K.N.; TRIFONOV, N.A.

Surface tension of binary liquid systems at the inversion temperature. Zhur.  
Fiz. Khim. 27, 527-31 '53. (MIRA 6:5)  
(CA 47 no.21:10582 '53)

1. V.M. Molotov State Univ., Rostov-on-Don.

KOVALENKO, K. N

USSR/Chemistry - Analysis

Card 1/1 Pub. 147 - 18/27

Authors : Kovalenko, K.N., Trifonov, N.A.

Title : Physico-chemical analysis of systems formed by diphenylamine with quinoline and aniline (fusibility, density and viscosity).

Periodical : Zhur. fiz. khim. 28/2, 312-316, Feb 1954

Abstract : The physico-chemical properties of the diphenylamine-quinoline system were determined on the basis of its fusibility, density and viscosity characteristics. It was established that a chemical reaction takes place between the individual components of the system which results in the formation of compounds with a ratio of 1:1 which are later thermally dissociated in liquid phase. Analysis made of the diphenylamine-aniline system showed no traces of any chemical reaction between the components of this system and the component ratio was found to be ideal. Twelve references: 11-USSR and 1-German (1923-1950). Tables.

Institution : The V.M. Molotov State University, Rostov

Submitted : April 30, 1953

Kovalenko, K.N.

USSR/ Physical Chemistry - Thermodynamics. Thermochemistry. B-8  
Equilibrium. Physicochemical Analysis. Phase Transitions.

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 7494

Author : Kovalenko, K.N. and Balandina, N.I.

Inst : Rostov-on-the-Don University

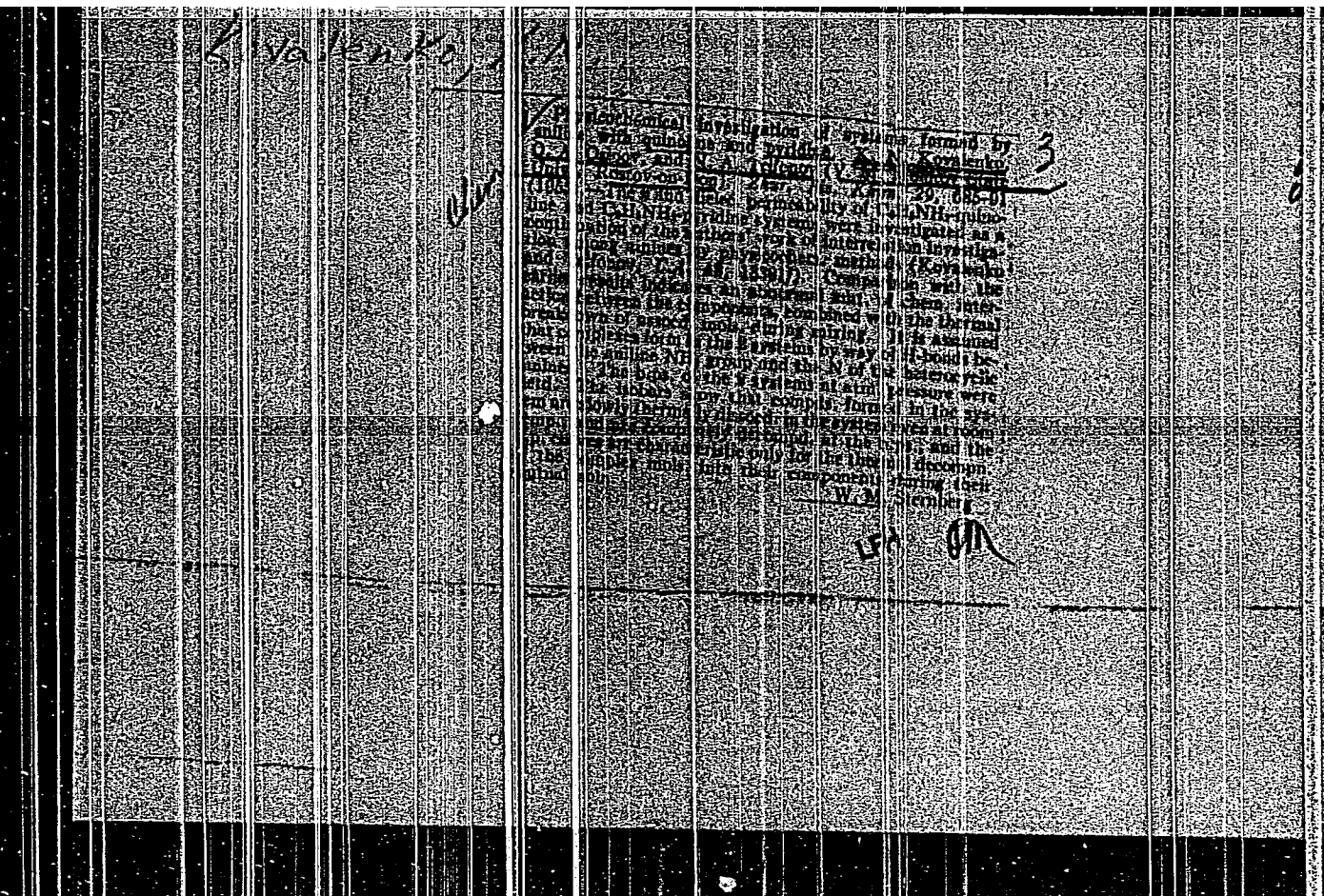
Title : Physicochemical Analysis of Amine-Containing Systems

Orig Pub : Uch. zap. Rostovsk. n/D. un-ta, 1955, Vol 25, No 7, 13-18

Abstract : The viscosity, density, and surface tension (at 0, 25, and 75°) of the quinaline-aniline (I) system have been investigated. It was found that chemical reaction takes place in the system leading to the formation of a compound which dissociates in solution. In the region 25-80 mole percent I, the mixture does not crystallize but forms a vitreous mass, which made it impossible to obtain a complete melting-point diagram. The viscosity and density (at 25, 50, and 75°) and the surface tension (at 25 and 50°) of a dimethyl aniline-I mixture have been investigated.

Card 1/2

- 117 -



KOVALENKO, K.N.; TRIFONOV, N.A.; TISSEN, D.S.

Physicochemical study of the system: water -- acetic anhydride -- dioxane. Zhur.ob.khim. no.9:2404-2410 S '56.

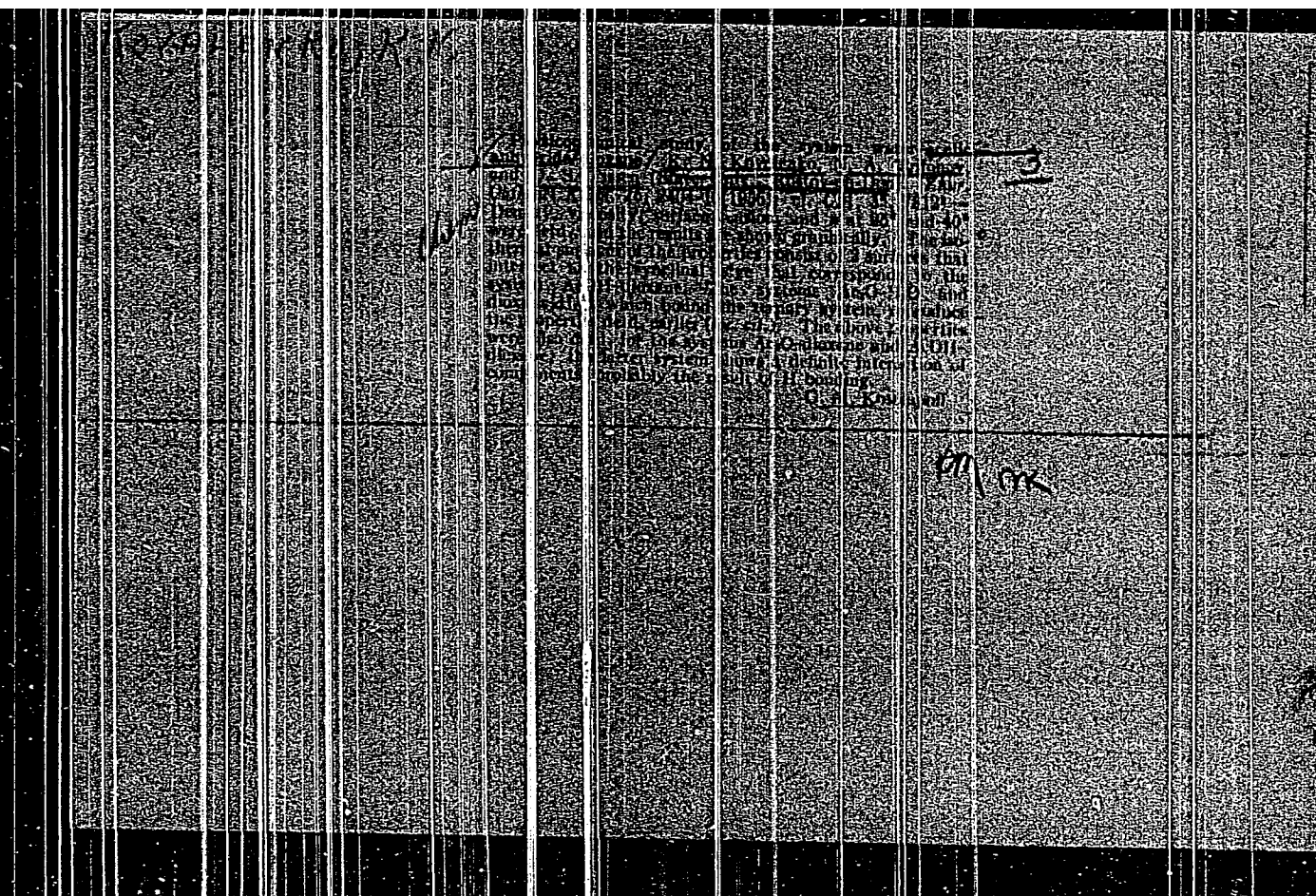
(MLRA 9:11)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.  
(Acetic anhydride) (Dioxane)

of the system 1-acetic acid, it is concluded that chemical reaction takes place in the system leading to the formation of a compound which is considerably dissociated in solution. The isotherms of the system

1-acetic anhydride show that in that system the reaction between the components is nearly normal.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825520006-3"





KOVALENKO, K.M.

Reduction of cadmium in a zinc electrolyte by metallic zinc. Uch.  
zap. RGU 40:87.91 58. (MIRA 13:10)  
(Cadmium) (Zinc)

KOVALENKO, K.N.; TRIFONOV, N.A.

Physicochemical analysis of the system aniline - ethyl alcohol;  
viscosity, density, and surface tension. Uch.zap. RGU 41:45-50  
'58. (MIRA 15:1)

(Aniline) (Ethyl alcohol)

KOVALENKO, K.N.; BALANDINA, N.I.

Solid - liquid and liquid - vapor equilibrium in the system dioxane -  
acetic acid. Uch.zap. RGU 41:39-43 '58. (MIRA 15:1)  
(Dioxane) (Acetic acid) (Phase rule and equilibrium)

5(4)

SOV/78-4-4-15/44

AUTHORS: Kovalenko, K. N., Vistyak, L. I.

TITLE: Concerning the Zinc Citrate Complex in Aqueous Solution  
(O tsitretnykh kompleksakh tsinka v vodnom rastvore)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 4, pp 807-807  
(USSR)

ABSTRACT: The complex formation by citrate and zinc ions was investigated in aqueous solution by measuring the electric conductivity and by means of potentiometric titration. By the determination of the electric conductivity it was found that the ratio of the components in the complex is 1:1. The potentiometric titration with NaOH of a solution containing zinc sulfate and sodium citrate showed that at the point corresponding to the same 1:1 ratio of components a sudden change in the pH value appears. The stability of the complex was investigated at various pH values. The complex is stable up to a pH of 8.6; at higher pH's a decomposition takes place. At pH > 8.6 in solutions with a 30-fold excess in sodium citrate a basic zinc citrate forms with the composition  $[Zn(OH)C_6H_5O_7]^{2-}$  and a stability constant of  $2.10^{-11}$ . The dependence of the strength of the

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SOV/78-4-4-15/44

## Concerning the Zinc Citrate Complex in Aqueous Solution

diffusion current of the zinc upon the composition of the solution in the reduction at the mercury electrode can be used to ascertain the complex formation in the system  $\text{ZnSO}_4 \cdot \text{Na}_3\text{Cit} \cdot \text{H}_2\text{O}$  and to determine the composition of the complex. The polarographic determinations confirmed the formation of a zinc citrate complex with the same 1:1 ratio of components. The papers gives the following tables: 1) The relationship of the electrical conductivity to the  $\text{ZnSO}_4 : \text{Na}_3\text{Cit}$  ratio in the solution; 2) Results of the potentiometric titration of a solution containing equimolar amounts of  $\text{ZnSO}_4$  and  $\text{Na}_3\text{Cit}$ ; 3) Dependence of the potential of the zinc upon the concentration of  $\text{Na}_3\text{Cit}$ ; 4) Dependence of the potential of the zinc electrode upon the pH value of the solution; 5) Dependence of the strength of the diffusion current of the zinc upon the concentration of  $\text{Na}_3\text{Cit}$ . There are 6 figures, 5 tables, and 9 references, 7 of which are Soviet.

SUBMITTED:  
Card 2/2

January 14, 1958

KOVALENKO, K.N.; MARKARANTS, L.M.; SIEMENOVA, I.M.

Electrochemical behavior of zinc and copper in foreign ion  
solutions. Uch. zap. VGU no. 60:57-64 '59. (MIRA 14:10)  
(Zinc) (Copper) (Electrochemistry)

KOVALENKO, K.N.; TARASOVA, M.N.

Physicochemical investigation of the interaction between thorium  
nitrate and phenylacetic acid. Zhur.neorg.khim. 5 no.2:385-392  
P '60. (MIRA 13:6)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.  
(Thorium nitrate) (Acetic acid)

KOVALENKO, K.N.; IVANOVA, Yu.P.; VOROB'YEVA, S.P.

Zinc corrosion in solutions of sulfuric acid and a zinc electrolyte  
in the presence of antimony and cobalt impurities. Uch.zap. RGU  
41:27-38 '58. (MIRA 15:1)

(Zinc--Corrosion) (Electrolysis) (Antimony)



KOVALENKO, K.N.; MINKIN, V.I.; NAZAROVA, Z.N.; KAZACHENKO, D.V.

Dipole moments of some derivatives of furfurole. Zhur.ob.  
khim. 32 no. 4:549-553 F '62. (MIRA 15:2)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.  
(Furaldehyde--Dipole moments)

KOVALENKO, K.N.; KUSHELEV, Yu.V.

Mobility of the thorium ion. Zhur. fiz. khim. 36 no.4:814-  
815 Ap '62. (MIRA 15:6)

1. Rostovskiy universitet.  
(Thorium) (Ions)

KOVALENKO, K.N.; KAZACHENKO, D.V.; IVANOVA, Ye.M.

Thorium ~~salicylates~~. Zhur.neorg.khim. 7 no.10:2340-2344 0 '62.  
(MIRA 15:10)

(Thorium salicylate)

KOVALENKO, K.N.; KAZACHENKO, D.V.; SAMSONOVA, O.N.

Thorium subacetate. Zhur.neorg.khim. 8 no.4:797-801 Ap '63.  
(MIRA 16:3)

(Thorium acetates)